Abstracts

Silicon Bipolar Double Balanced Active Mixer MMIC's for RF and Microwave Applications Up to 6 GHz (1989 Vol. I [MWSYM])

J. Wholey, I. Kipnis and C. Snapp. "Silicon Bipolar Double Balanced Active Mixer MMIC's for RF and Microwave Applications Up to 6 GHz (1989 Vol. I [MWSYM])." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 281-285.

A monolithic silicon bipolar technology based on transistors with f /sub T/'s of 10 GHz and f/sub MAX/'s of 20 GHz has been used to develop double balanced active mixers. These circuits are based on Gilbert cell multipliers and exhibit conversion gain for RF and LO bandwidths to 6 GHz and IF bandwidths to 2 GHz. This paper presents an overview of the bipolar technology used. It discusses the basic mixer circuit design and presents a novel technique for modeling its noise figure. Finally RF measurements for two representative designs are summarized.

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